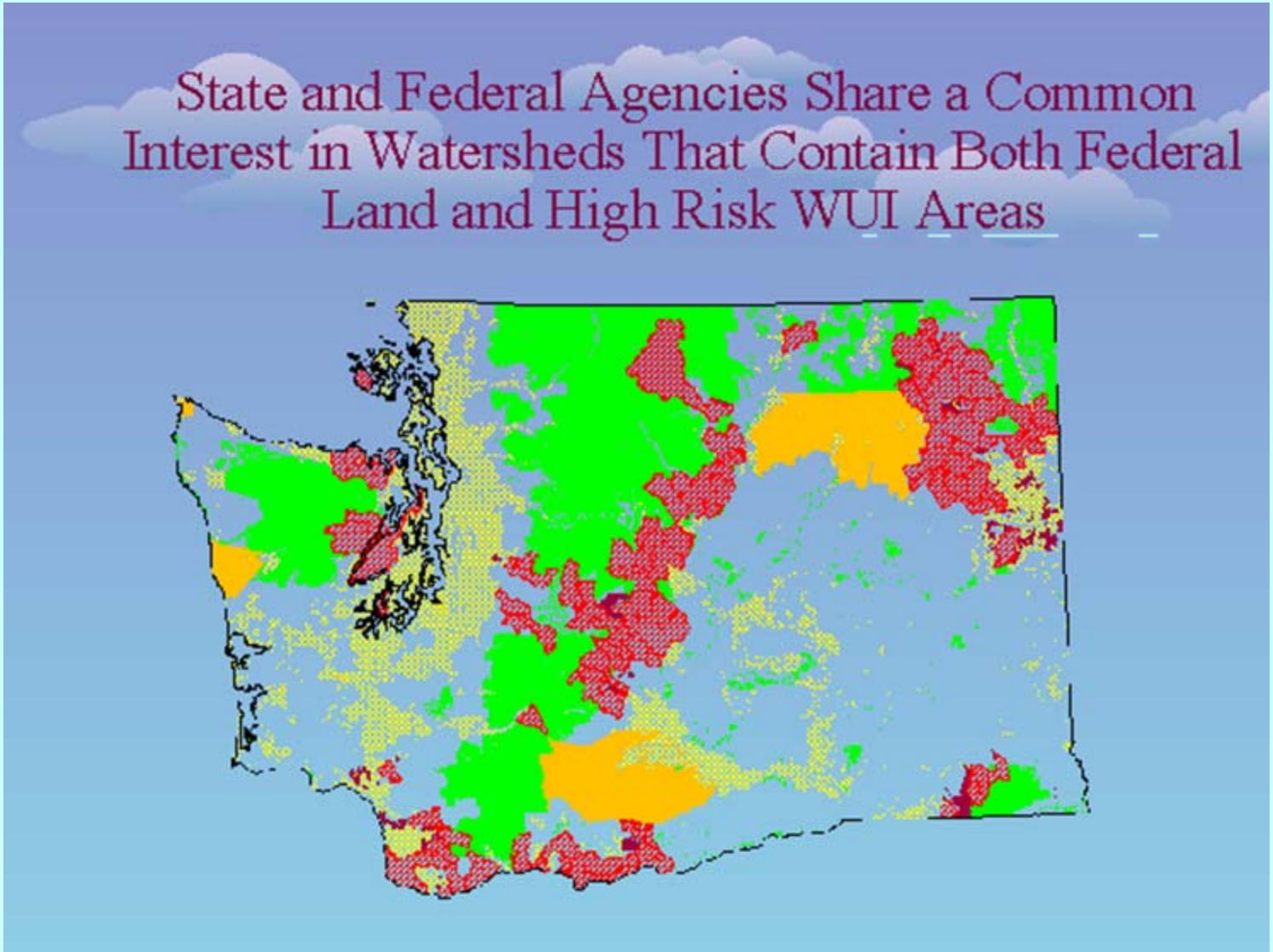
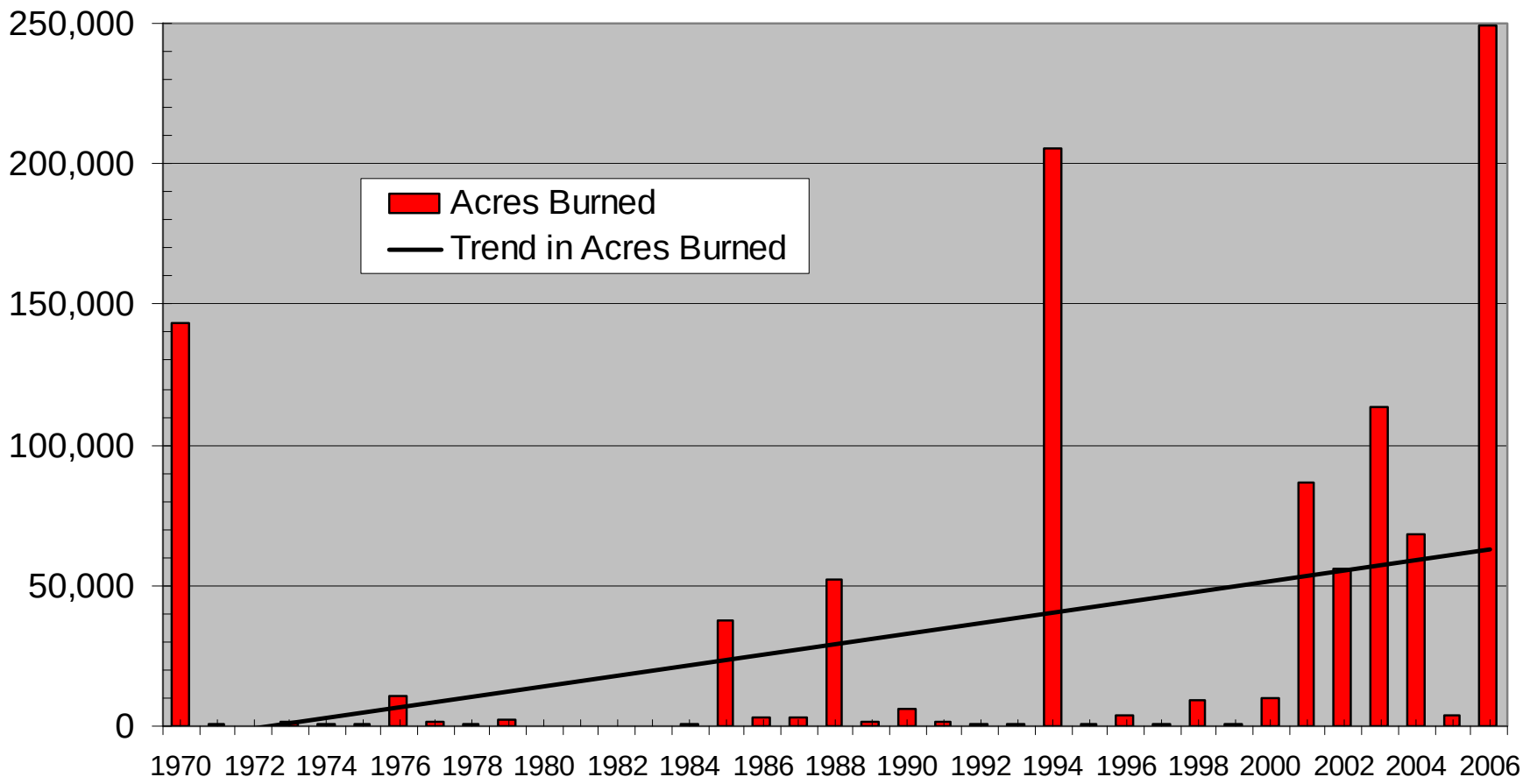
Okanogan-Wenatchee National Forest
Naches Ranger District
2007 Multi-Day Burn Pilot

High Risk Wildland Urban Interface Areas in Washington



Wildfire Acres are Increasing

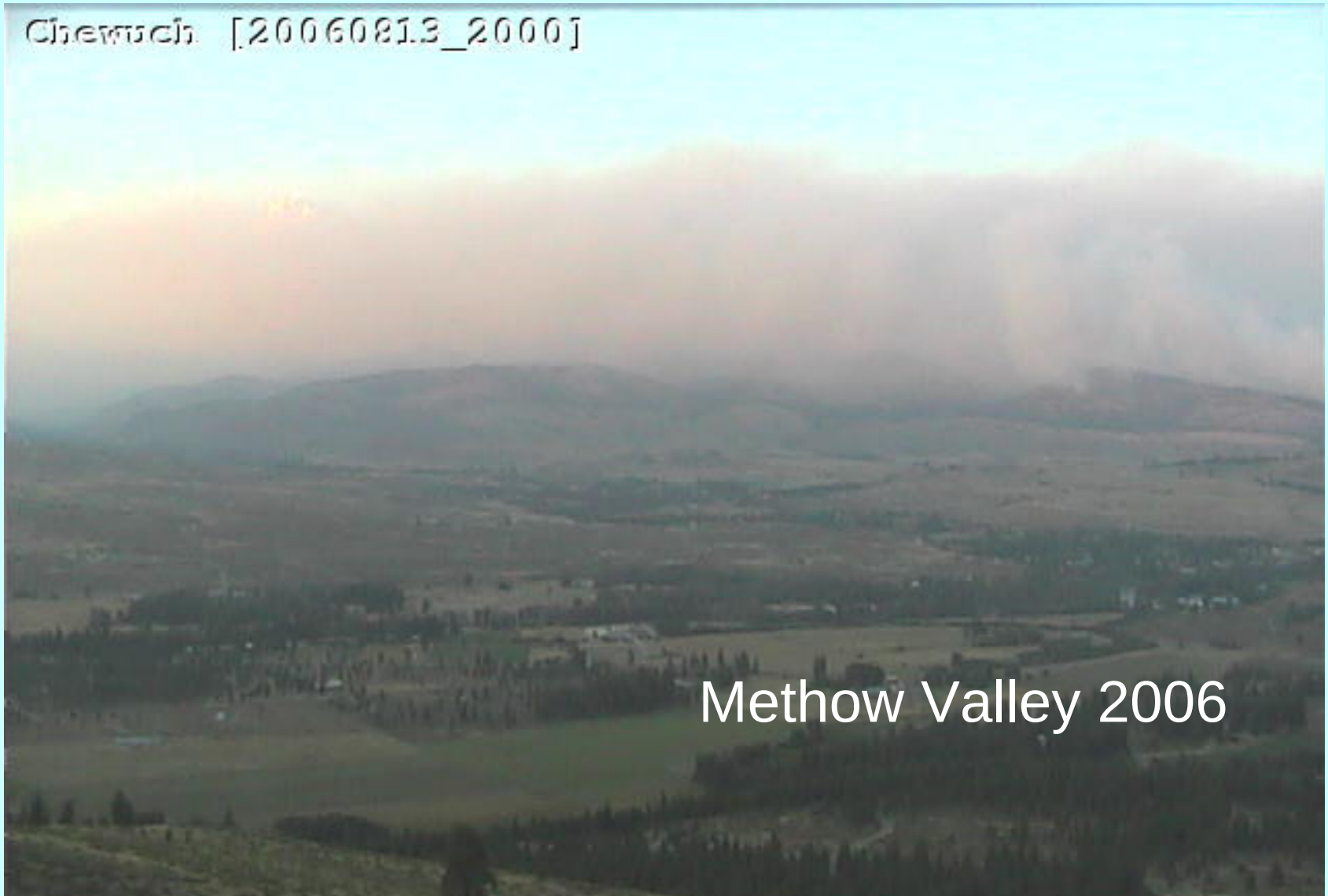


Wildfire Trends

How will climate change affect wildfire?

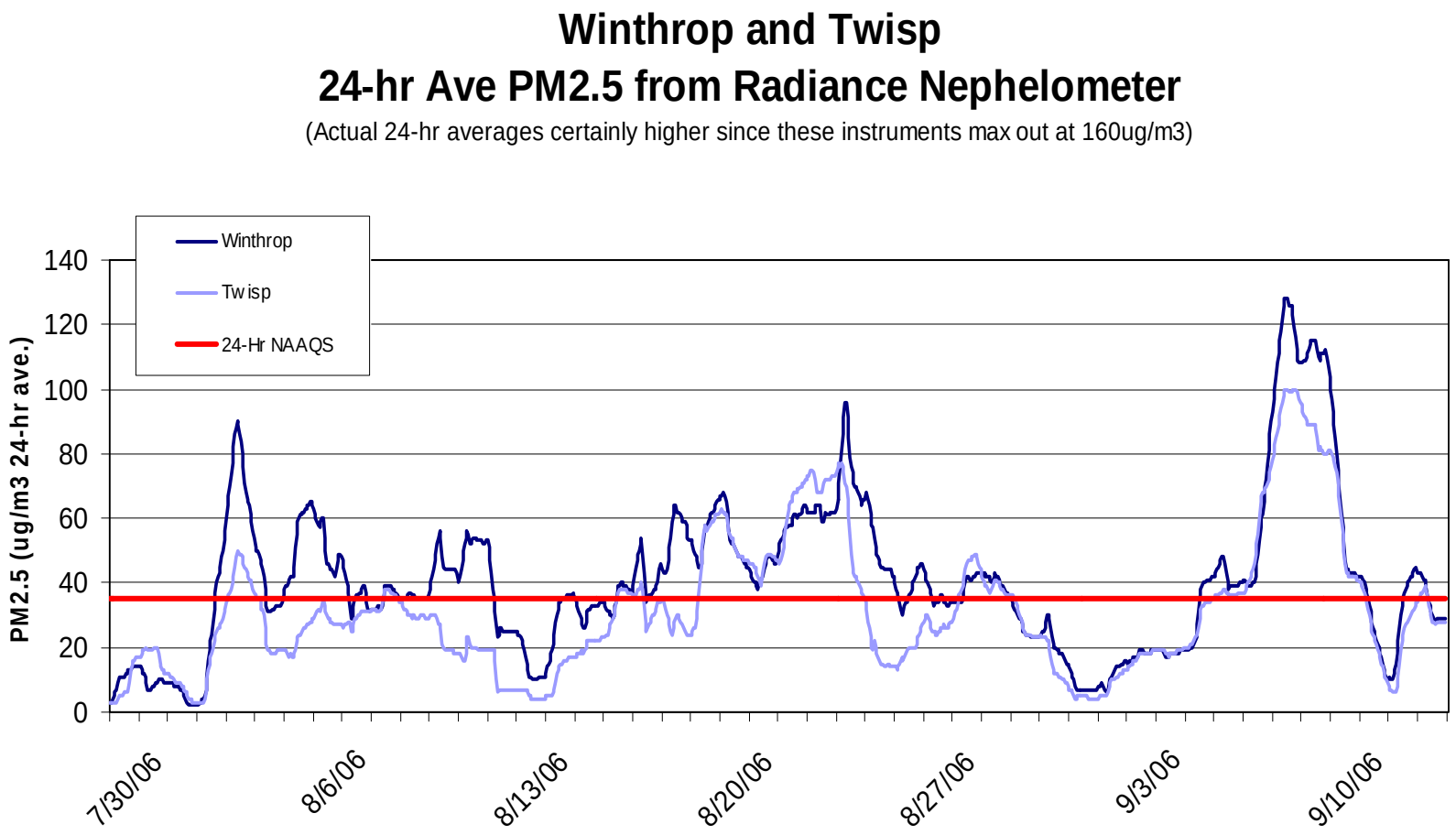
Air Quality and Wildfire in East Slope Cascade Communities

Air Quality and Wildfire in East Slope Cascade Communities



Methow Valley 2006

Tripod Fire Smoke at Winthrop and Twisp



Multi-Day Forestry Burn Trials

Current situation: Fire use goals are not being met.
Wildfire impacts increasing.

Question:
Can new tools and a new approach expand the burning window and allow more success?

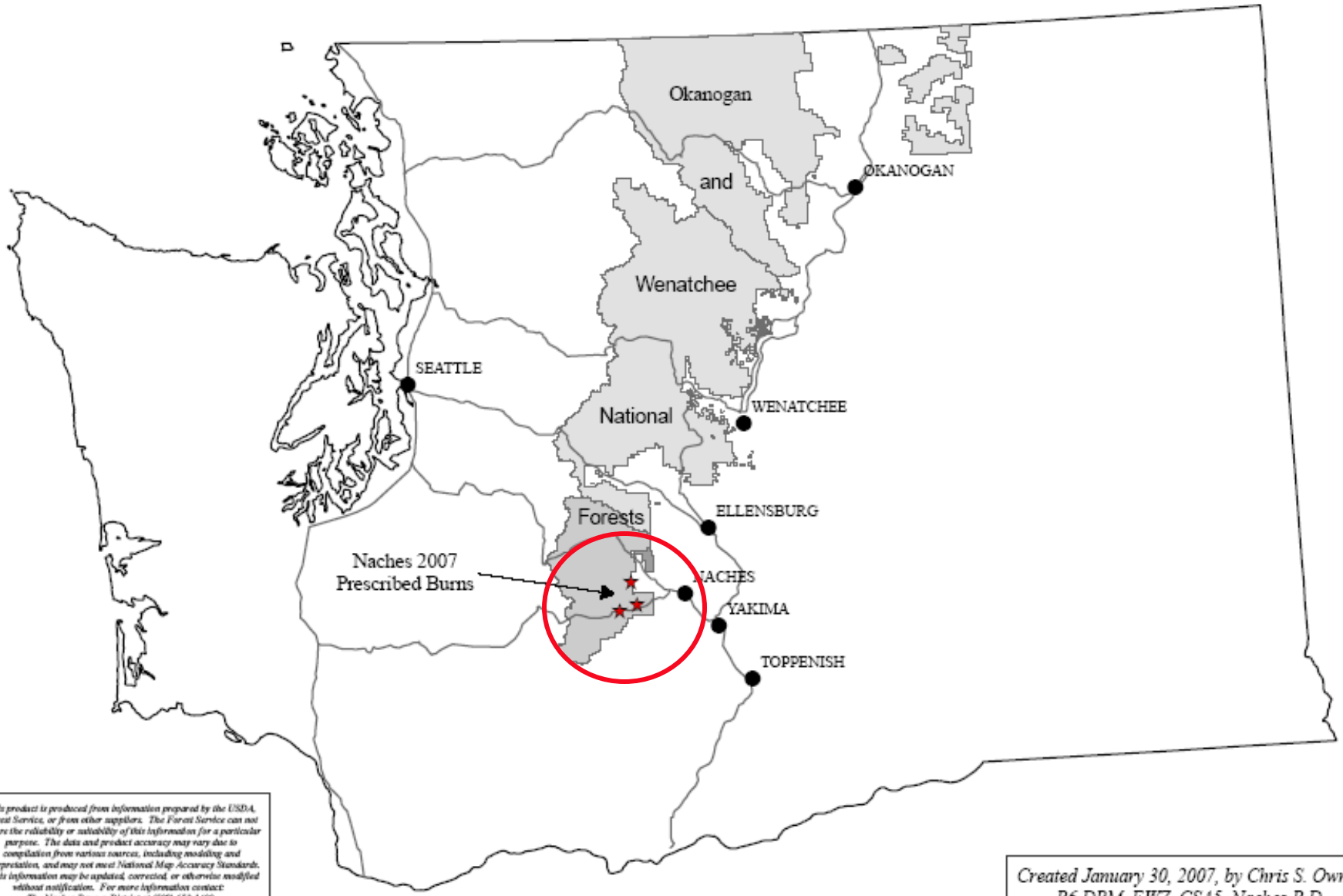
Collaborators

- Forest Service
  - Naches RD
  - OKA/WEN SO
  - R6 RO
  - PNW AirFire team
  - PNW FERA team
- Washington DNR
- National Weather Service
- Washington Dept. of Ecology
- Yakima Regional Clean Air Authority

Multi-Day Forestry Burn Trials
Naches RD
Spring 2007

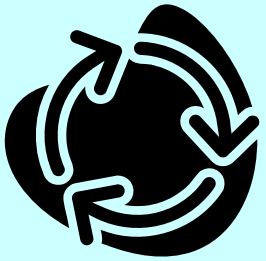
- Goals
  - Protect air quality
  - Improve forest health
  - Improve fire safety of communities
  - Improve habitat
  - Apply new science and decision tools

Okanogan & Wenatchee National Forests
Naches Ranger District
Spring 2007 Prescribed Burn Program



Created January 30, 2007, by Chris S. Ownby
R6 DRM, EWZ, CSA5, Naches R.D.

The Process



Dangerous Fuel Conditions

1. Mechanical Treatment

2. Burn Residual Ground Fuels

Healthy, fire resistant forest

Forest Service Fire Use Planning

Support Documents

- OKA/WEN Dry site strategy
- National Fire Plan
- Community Wildfire Protection Plan (CWPP)
  - Naches
  - Cowiche
  - Tieton
  - Nile Valley
- Rattle EA
- Kaboom EA
- Elderberry EA

Local Community Support
-Highlights from the CWPP-

- Identify areas with a high risk of loss to wildland fire
- Suggest and prioritize projects to reduce this risk
- Reduce hazardous fuels
- Restore fire adapted ecosystems
- Improve prevention and suppression
- Provide for human health and safety
- Each plan and project approved by County Government (i.e. Commissioners and County Fire Marshall) and WDNR

Daily Conference Calls
DNR, FS, AirFire, NWS

- Customized burn planning
- Extra flexibility on marginal days
- IMET/DNR collaboration

Decision Support-

National Weather Service Incident Meteorologist

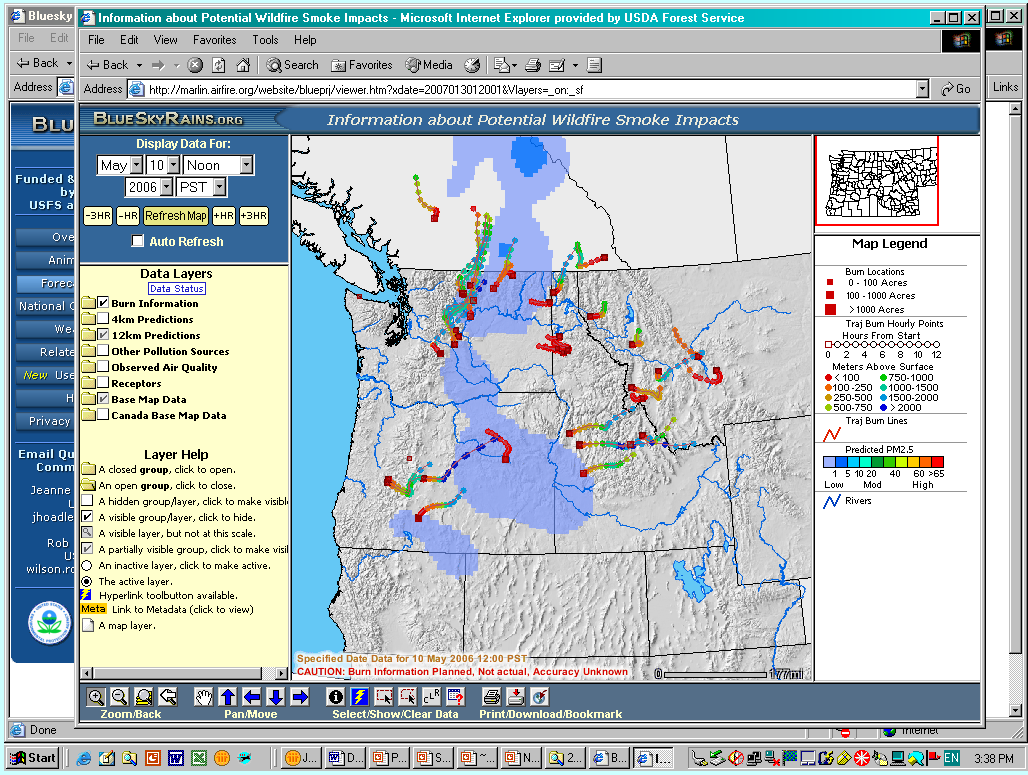
- Extra meteorological expertise through assigned GACC meteorologist
- Early set-up of RAWS for accurate fuel moisture information

Science Support FERA

- High accuracy fuel loading measurements
- Predictions of fuel consumption for smoke modeling
- Post-fire consumption measurements to improve models

Science Support: AirFire

- Smoke planning support
- VCIS statistics
- Customized BlueSky version
- Detailed burn scenarios into BlueSky simulations
- Smoke Monitoring



Community Outreach Plan
DNR and Forest Service effort

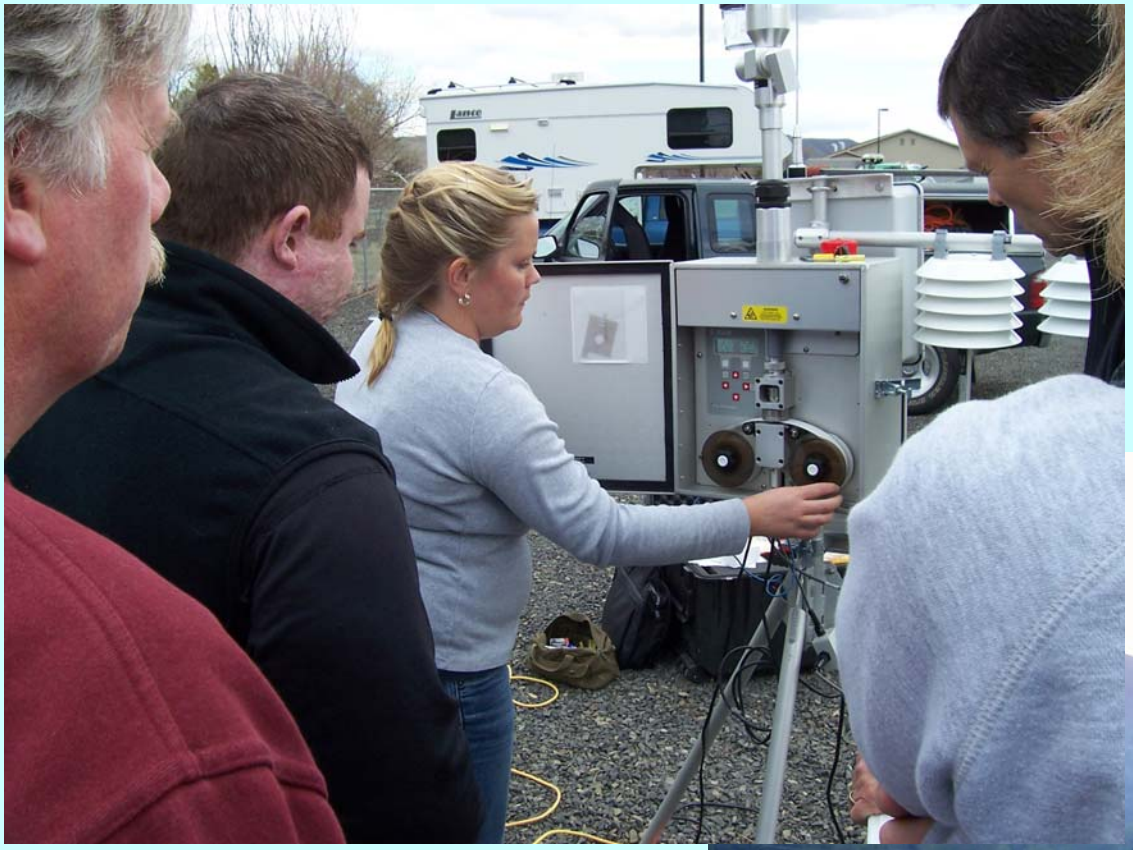
- Explain the goals of the trial
- Explain what people may see or smell
- Explain contingencies
- Provide contact information for feedback.

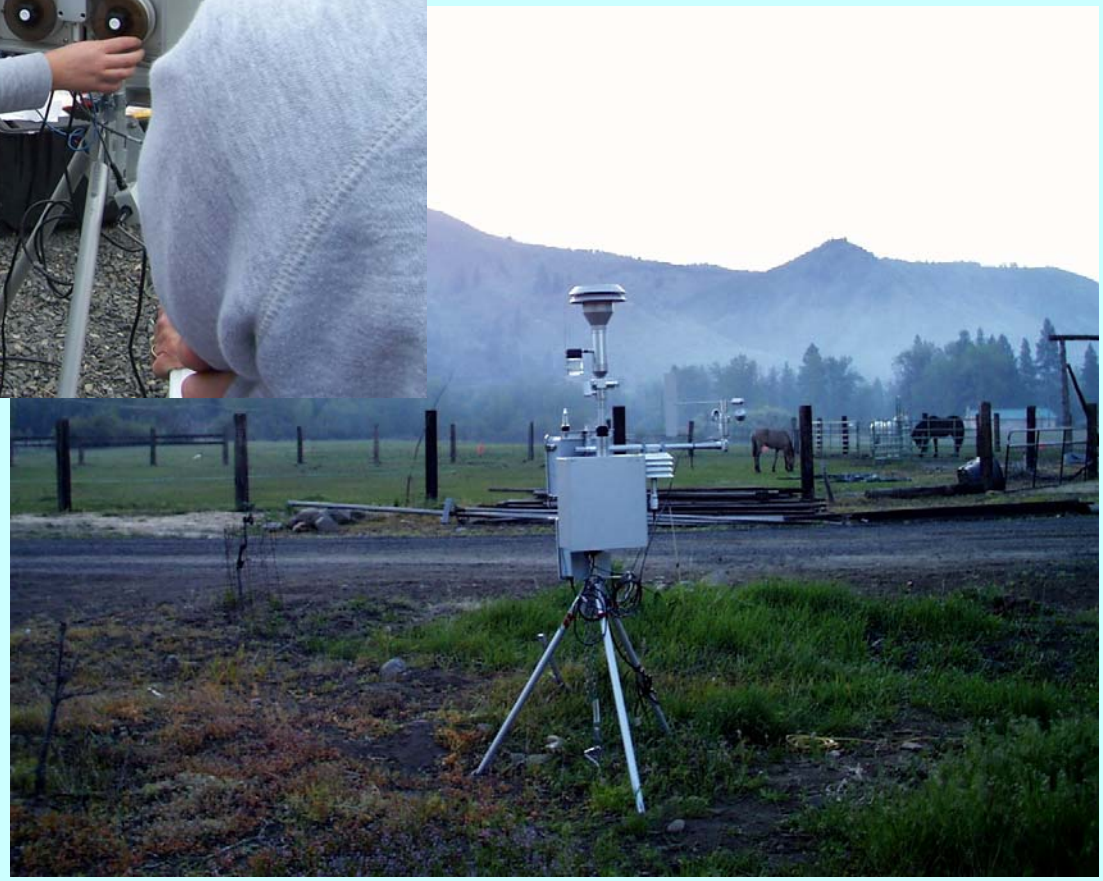
Regulatory Support

- Monitoring
  - Selection of monitoring sites
  - Equipment to use
  - Assessment of concentrations
- Trigger Points
  - Monitoring values to inform the decision
  - What concentration level indicates
    - slow down ignition
    - curtail ignition
    - begin mop-up

Yakima Regional Clean Air Authority

Four air monitors (EBAMS) deployed in Naches area





Every morning the monitoring data was analyzed and air quality at each of the 4 monitoring locations was rated and categorized as follows:

- “Good”
  - no 1-hour PM2.5 concentration measured during the previous 24-hours exceeded 35µg/m3
  - the 24-hour running average was at 15µg/m3 or less.
- “Moderate”
  - one (or more) 1-hour average PM2.5 concentration of 35µg/m3 or greater measured during the previous 24-hours,
  - and/or the 24-hour average was greater than 15µg/m3.
- “High”
  - a running 24-hour average concentration of 35µg/m3 or greater was measured during the previous 24-hour reporting period.

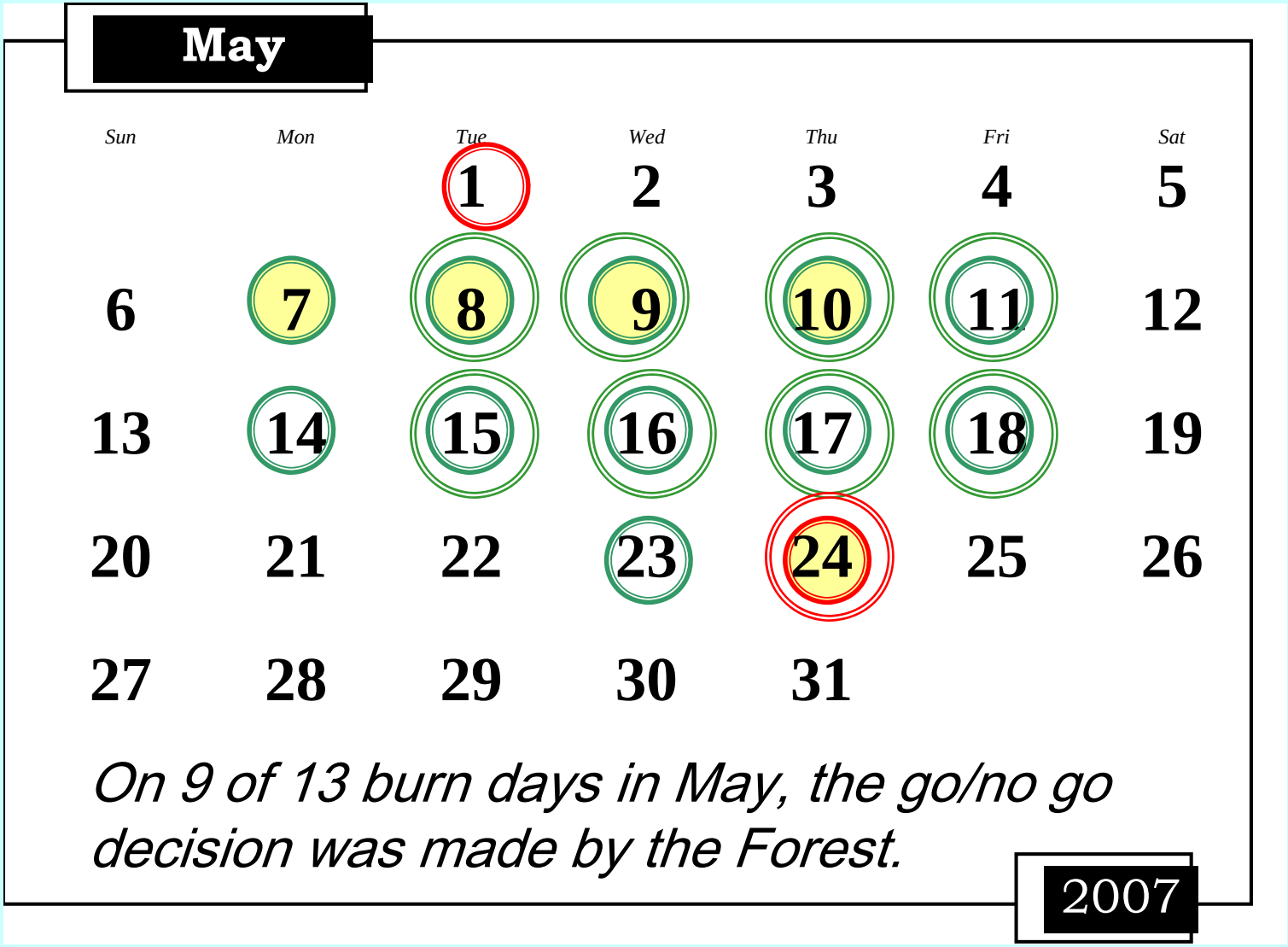
Air Quality and Initial Ignitions

- Good: proceed
- Moderate:
  - Is smoke dispersion meteorology expected to improve conditions in next 24-hrs?
    - Yes: Proceed with caution.
    - No: Do not proceed.
- High:
  - No new ignitions

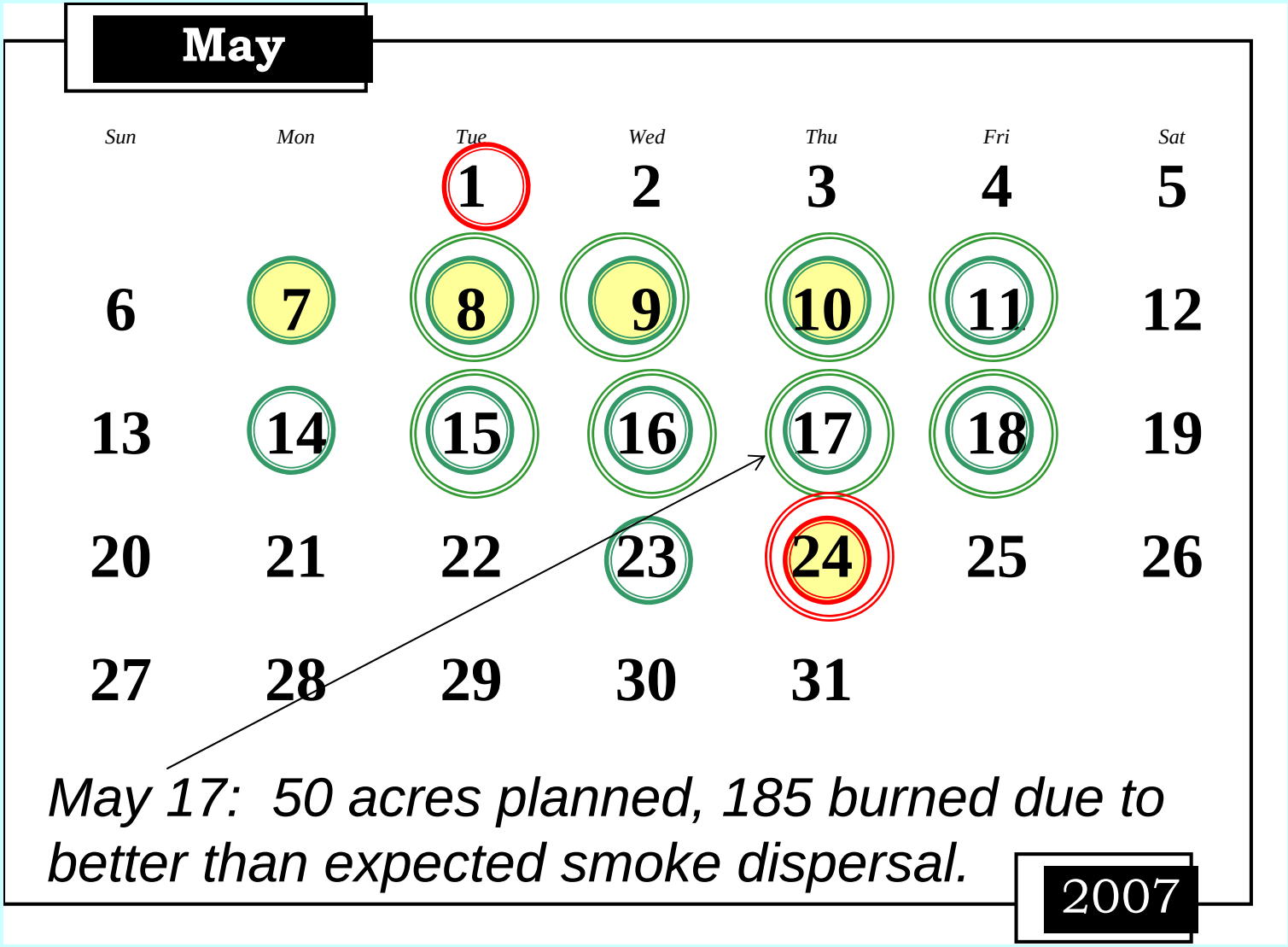
Air Quality and Actively Burning Areas

- Good: proceed
- Moderate: Assess and implement actions to improve air quality (stop igniting, change burn operations to improve loft, begin mop-up).
- High:
  - Meteorology improving?
    - Yes: Actions to accelerate improvements
    - No: Initiate mop-up

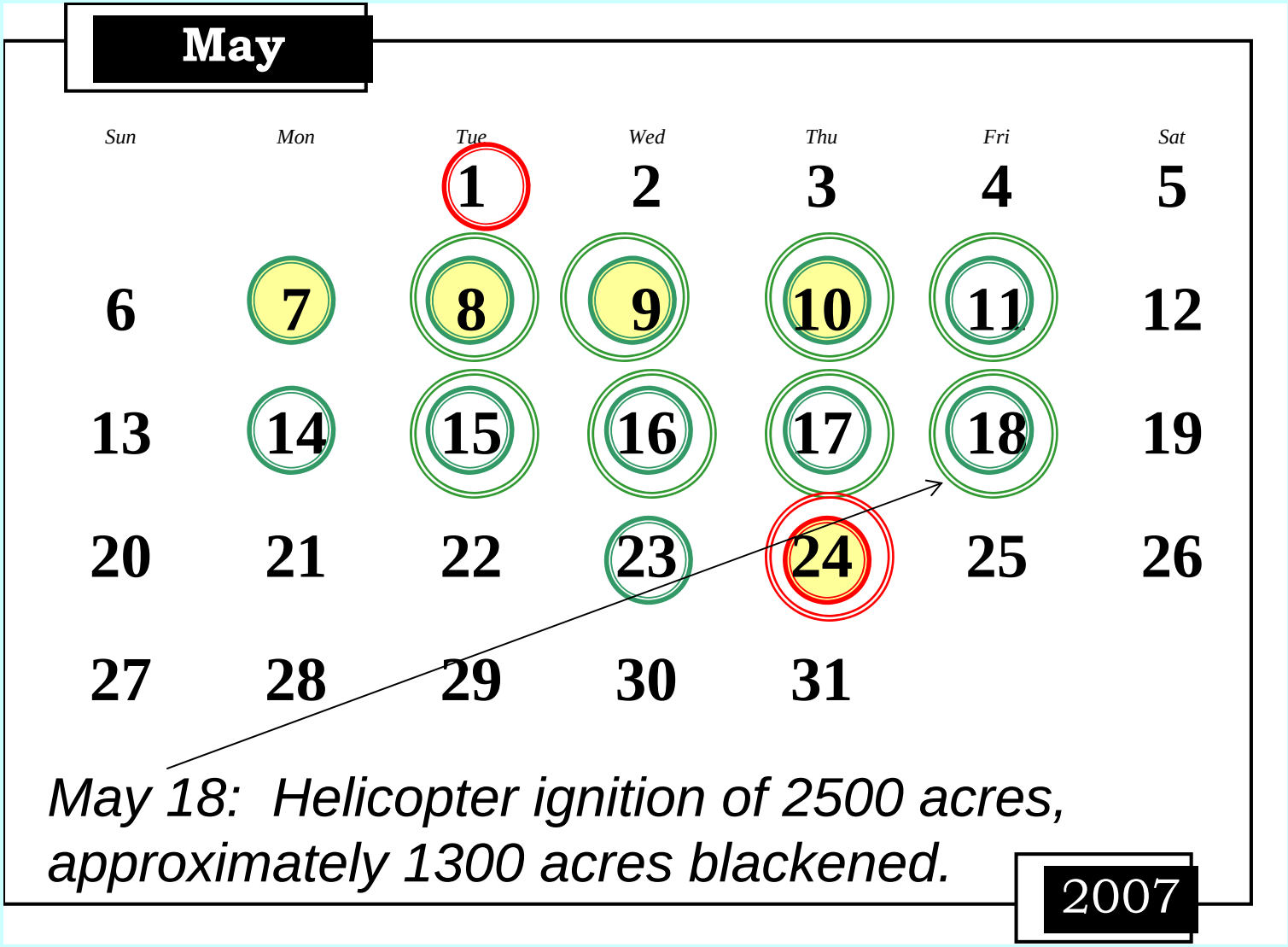
Naches Burn Days

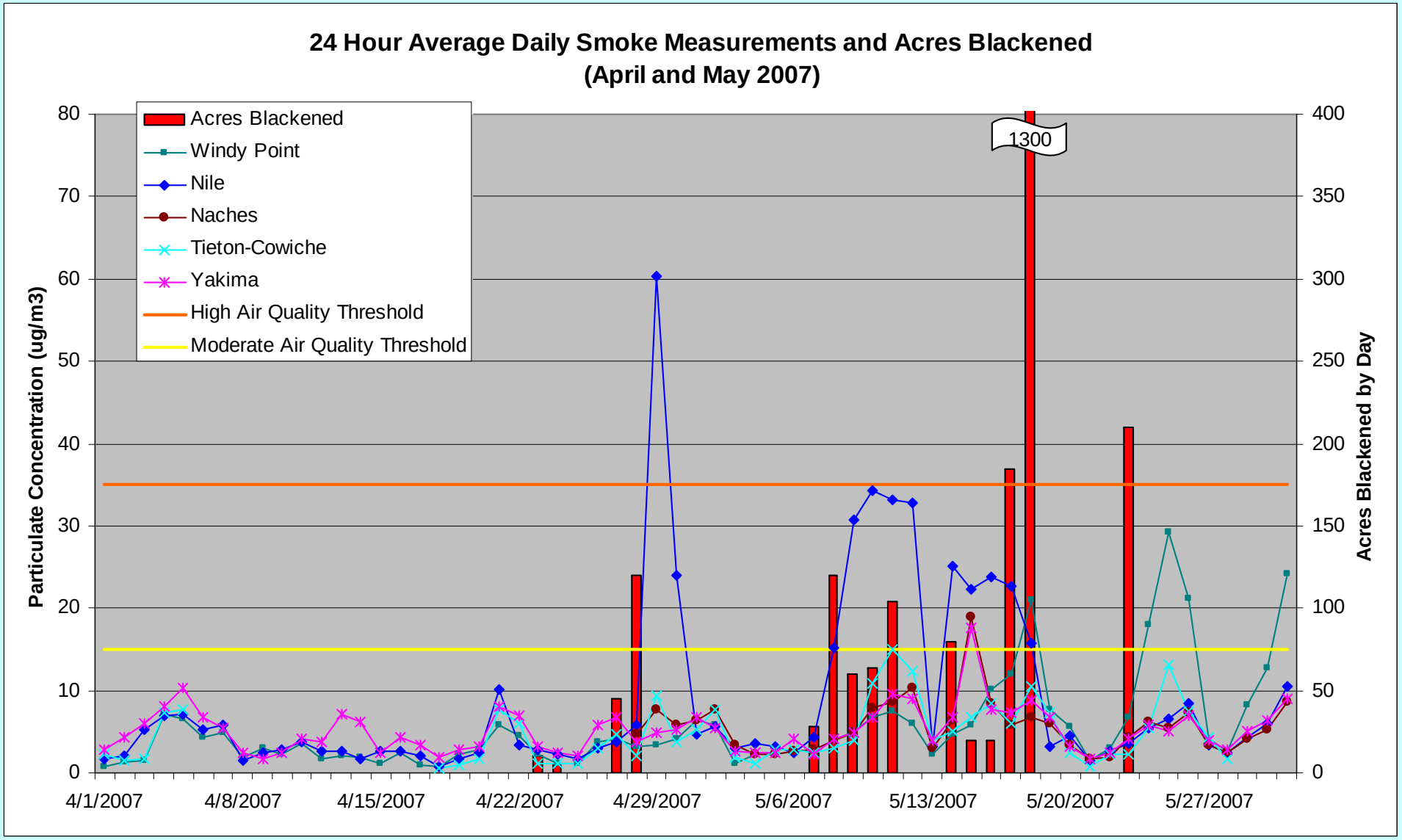


Naches Burn Days

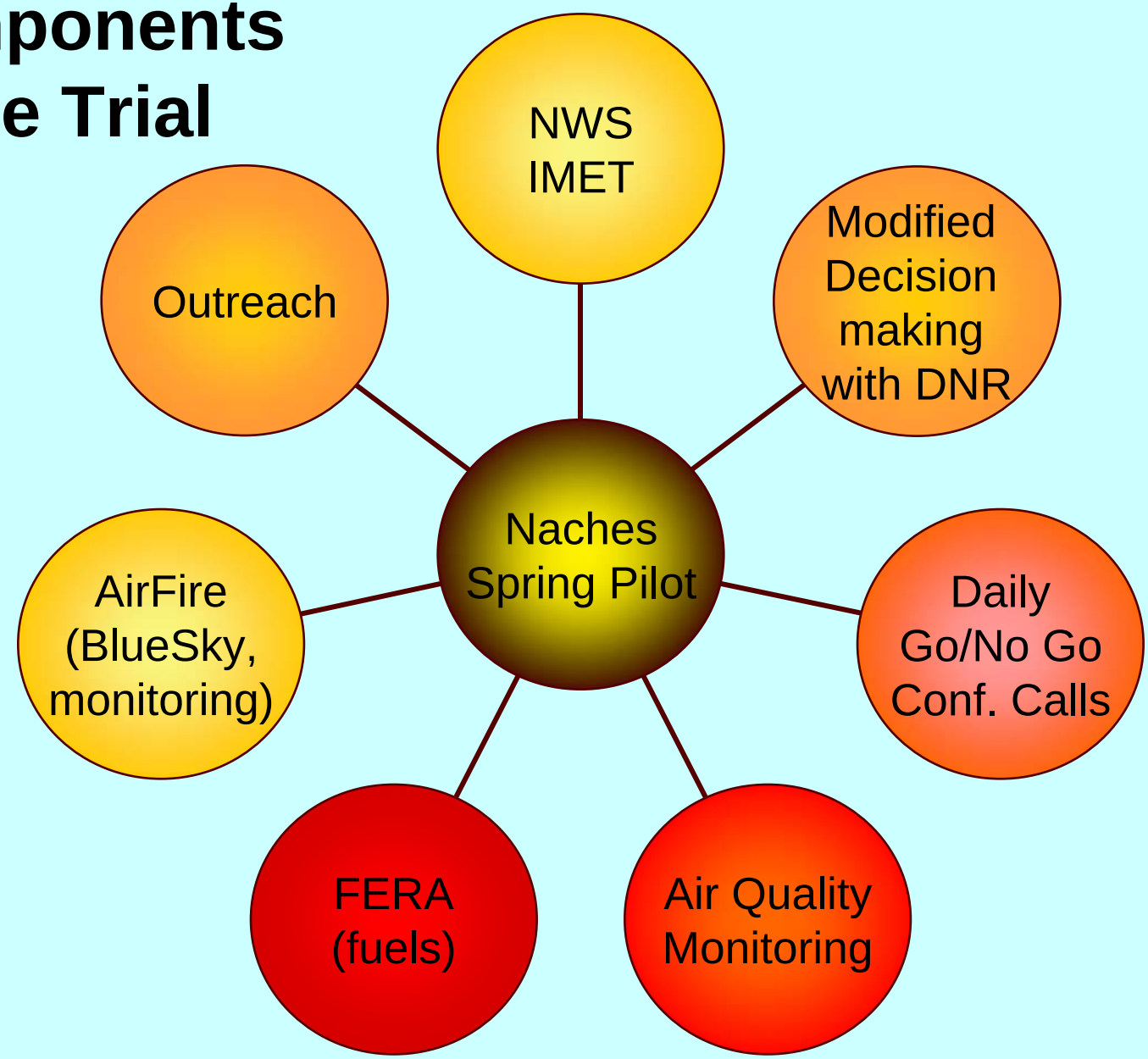


Naches Burn Days




24 Hour Average Daily Smoke Measurements and Acres Blackened
(April and May 2007)
Acres Blackened
Windy Point
Nile
Naches
Tieton-Cowiche
Yakima
High Air Quality Threshold
Moderate Air Quality Threshold
1300
Particulate Concentration (ug/m3)
Acres Blackened by Day
0
10
20
30
40
50
60
70
80
0
50
100
150
200
250
300
350
400
4/1/2007
4/8/2007
4/15/2007
4/22/2007
4/29/2007
5/6/2007
5/13/2007
5/20/2007
5/27/2007

Components of the Trial



USDA

United States Department of Agriculture

Forest Service

Pacific Northwest Region

Okanogan - Wenatchee National Forest

October 2007

2007 Multi-Day Burn Pilot Final Report

Okanogan-Wenatchee National Forest

Naches Ranger District

http://www.fs.fed.us/pnw/fera/research/targeted/naches.shtml

Okanogan-Wenatchee National Forest
Naches Ranger District
2007 Multi-Day Burn Pilot
Executive Summary
And Specialists Reports

October 2007

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With Input from:
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